

Claims

What is claimed:

1. An imaging device comprised of:

A photon source for generating a photon reflection from a target,

5 a detector array for producing a detector array output signal in response to said photon reflection,
a multilayer processing module for the receiving of said detector array output signal, said
processing module comprised of at least two stacked layers wherein each of said at least two
stacked layers are comprised of at least one integrated circuit chip for the processing of said
received detector array output signal.

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2. The imaging device of Claim 1 wherein said processing module includes at least one T-
connect structure formed thereon for the electrical connection of said detector of an external
electronic device.

15 3. The imaging device of Claim 1 further comprising circuit means for converting said
processed detector array output signal into an electronic image.

4. The imaging device of Claim 1 further comprising circuit means for converting said
processed detector array output signal into a three-dimensional electronic image.

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5. The imaging device of Claim 1 wherein said photon source is a laser.

6. The imaging device of Claim 1 wherein said photon source is a pulsed laser.

7. The imaging device of Claim 1 further comprising beam-shaping optics for the focussing of said photon source upon said target.

5 8. The imaging device of Claim 1 further comprising collection optics for the focussing of said reflected photons upon said detector array.

9. The imaging device of Claim 1 wherein said detector array is an InGaAs detector array.

10 10. The imaging device of Claim 1 wherein said detector array is bump bonded to said processing module by means of at least one T-connect.

11. The imaging device of Claim 1 wherein said detector array output signal is compared to a predetermined threshold using a comparator.

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12. The imaging device of Claim 2 wherein said external electronic device is a detector array.